Automated Linkage of an Electronic Medical Record with QMR (Quick Medical Reference)

Raphael J. Kiel MD, FACP, Oakwood Hospital, Dearborn, MI.

One obstacle to the use of diagnostic programs by physicians is the requirement for the user to manually enter findings into the program. Unfamiliarity with the program's vocabulary, mistakes in typing and the need to scan lists of potential positive findings discourage novice users of software like QMR. Dr Welford has developed a QMR Link option to his electronic medical record, "Dr. Welford's Electronic Chart Notes Program" (DWECNP). This program function analyzes the electronic record to identify any of the 4,653 QMR findings, places those findings in a file and exports that file to the QMR program where it can be imported and analyzed. I evaluated the utility of this option using 30 history and physicals entered manually into QMR and automatically through the QMR-Link function of DWENCP.

MATERIALS AND METHODS

Thirty history and physicals were selected from patients admitted within the last 60 days to Oakwood Hospital. These records were dictated by house staff and attending physicians and were transcribed using WordPerfect. The history and physical record was saved as an ASCII file and imported into the DWECN program. Each case was initially entered into the QMR program by the author and then was entered using the QMR automated link function. The time required to enter the case by both methods was recorded, the number of positive and negative findings was compared, and the total number of diagnoses and score of the top diagnosis generated by QMR was recorded.

RESULTS

In 21 of 30 cases, findings were entered more quickly using the QMR link function (195 seconds versus 211 seconds for manual entry). An average of 22.7 findings were entered using the QMR link option compared to 15.2 findings using manual case entry. There was no difference in the number of diagnoses generated or score of the top diagnoses using the two methods. Using the QMR function, typing mistakes were omitted, more negative findings were entered (average of 8.03 versus 1.8 for manual entry) and coding mistakes were reduced.

CONCLUSIONS

Diagnostic support programs often have unique vocabularies, peculiarities in the coding of findings and a modest learning curve. Physicians often do not utilize decision support programs due to these hurdles. The ability to import previously dictated reports into an electronic medical record and to subsequently automatically identify findings is a necessary first step to solve this problem.

The QMR-Link function of Dr. Welford's electronic Chart Notes Program automates the entry of findings into a decision support software program. Time of finding entry, number of findings and number of diagnoses were comparable to manual entry by an experienced user of QMR. It is anticipated that this program feature would be of much greater use to physicians without extensive experience with data entry into QMR and will reward that physicians for taking the time to utilize an electronic medical record.

The linkage of diagnostic and therapeutic support programs to the electronic medical record is a trend that should continue. Physicians will be drawn to utilize the electronic record if they continue to derive a benefit from their efforts.

0195-4210/95/$5.00